AMENDMENTS TO THE CLAIMS

1.   (Original) A method in the computer system for correlating a subset of attributes to one or more payloads, the method comprising:

obtaining a request for payload corresponding to a subset of client attributes;

obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload;

correlating the condition statement into a catalog, wherein the catalog includes an attribute list, an evaluator list, a value list and a payload list;

traversing the catalog to determine one or more payloads corresponding to the subset of client attributes; and

returning the one or more payloads.

2.   (Original) The method as recited in Claim 1, wherein the step of correlating the condition statement into a catalog includes:

generating an expression tree corresponding to the condition statement;

mapping the expression tree into an evaluation tree; and

mapping the evaluation tree into the catalog.

3.   (Original) The method as recited in Claim 2 further comprising optimizing the expression tree prior to mapping the expression tree into an evaluation tree.

4.   (Original) The method as recited in Claim 3, wherein the step of optimizing the expression tree includes:

organizing the expression tree such that an attribute evaluator value expression is a leaf node and a connector is a tree node;

scoring any tree nodes, wherein a disjunctive tree node score equals the sum of its subtree, wherein a conjunctive tree node score equals the product of its subtree, and wherein each leaf node score equals one; and

for each level of the expression tree, organizing the nodes such that a right-most node has the highest score.

5.   (Original) The method as recited in Claim 2, wherein the step of mapping the expression tree into an evaluation tree includes:

placing a lowest scoring leaf node as a topmost node of the evaluation tree;

placing conjunctive operations as right tree nodes;

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placing disjunctive operations as left tree nodes; and

traversing the expression tree until each leaf node within the expression tree is mapped into the evaluation tree.

6.   (Original) The method as recited in Claim 2, wherein the step of mapping the expression tree into the catalog includes:

storing a first attribute in the attribute list;

storing one or more evaluators corresponding to the first attribute in the evaluator list;

storing one or more values corresponding to each of the first attribute evaluators in a value list;

if any conjunctions exist, storing one or more identifiers of attribute evaluation value pairs corresponding to the first attribute value; and

if any payloads exist, storing one or more payloads corresponding to the first attribute value.

7.   (Original) The method as recited in Claim 6 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for any conjunction listed in the first attribute conjunction list.

8.   (Original) The method as recited in Claim 6 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for a second attribute in the evaluation tree.

9.   (Original) The method as recited in Claim 6 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for attribute evaluator value pairs identified the first attribute conjunction list, wherein the step of storing data in an attribute list is done on a separate catalog data structure.

10.   (Original) The method as recited in Claim 6, wherein the attribute list is a master attribute list having a size less than all the possible attributes.

11.   (Currently amended) The method as recited in Claim 1, wherein the step traversing the catalog to determine one or more payloads corresponding to the subset of client attributes includes:

obtaining a first attribute from the subset of client attributes;

if the first attribute is found in the attribute list, obtaining an evaluator from the evaluator list and a value from the value list, wherein the evaluator and value form an evaluator/value set;

if the first attribute satisfies the evaluator/value set, determining whether a conjunction and a payload exist;

if a conjunction exists, repeating the steps with a corresponding attribute identified in the conjunction; and

if a payload exists, adding the payload to a master payload list.

12. (Original) The method as recited in Claim 11 further comprising repeating the steps until the last evaluator in the first attribute evaluation list is examined.

13. (Original) The method as recited in Claim 12, wherein the repeating step is done on a separate catalog data structure.

14. (Original) The method as recited in Claim 1, wherein the payload set is advertisement media and wherein the client attributes are client profile data attributes.

15-23. (Canceled)

24. (Original) A computer-readable medium having computer-executable modules for correlating payloads with a condition statement for delivering the payload, the modules comprising:

a master attribute module for storing a list of attributes;

an evaluator module, dynamically linked to the attribute module, and containing evaluators corresponding to each attribute in the attribute list;

a value module, dynamically linked to the evaluator module, and containing values corresponding to each evaluator in the evaluation module;

a payload module, dynamically linked to the value module, and containing payload sets corresponding to each value in the value module, wherein the payload module may be empty; and

a conjunction module dynamically linked to the value module and containing conjunction sets corresponding to each value in the value module, wherein the conjunction list may be empty.

25. (Original) The computer-readable medium as recited in Claim 24 further comprising one or more attribute modules for storing additional attributes.

26. (Original) The computer-readable medium as recited in Claim 25, wherein the master attribute module list contains less than all the possible attributes.

27. (Original) The computer-readable medium as recited in Claim 25, wherein the payload set is advertisement content and when the attributes are client profile data attributes.

28. (Canceled)

29. (New) A computer-readable medium containing computer-readable instructions which when executed perform a method in a computer system for correlating a subset of attributes to one or more payloads, the method comprising:

obtaining a request for payload corresponding to a subset of client attributes;

obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload;

correlating the condition statement into a catalog, wherein the catalog includes an attribute list, an evaluator list, a value list, and a payload list;

traversing the catalog to determine one or more payloads corresponding to the subset of client attributes; and

returning the one or more payloads.

30. (New) A computer-readable medium as recited in Claim 29, wherein the step of correlating the condition statement into a catalog includes:

generating an expression tree corresponding to the condition statement;

mapping the expression tree into an evaluation tree; and

mapping the evaluation tree into the catalog.

31. (New) A computer-readable medium as recited in Claim 30 further comprising optimizing the expression tree prior to mapping the expression tree into an evaluation tree.

32. (New) A computer-readable medium as recited in Claim 31, wherein the step of optimizing the expression tree includes:

organizing the expression tree such that an attribute evaluator value expression is a leaf node and a connector is a tree node;

scoring any tree nodes, wherein a disjunctive tree node score equals the sum of its subtree, wherein a conjunctive tree node score equals the product of its subtree, and wherein each leaf node score equals one; and

for each level of the expression tree, organizing the nodes such that a rightmost node has the highest score.

33.   (New) A computer-readable medium as recited in Claim 30, wherein the step of mapping the expression tree into an evaluation tree includes:

placing a lowest scoring leaf node as a topmost node of the evaluation tree;

placing conjunctive operations as right tree nodes;

placing disjunctive operations as left tree nodes; and

traversing the expression tree until each leaf node within the expression tree is mapped into the evaluation tree.

34.   (New) A computer-readable medium as recited in Claim 30, wherein the step of mapping the expression tree into the catalog includes:

storing a first attribute in the attribute list;

storing one or more evaluators corresponding to the first attribute in the evaluator list;

storing one or more values corresponding to each of the first attribute evaluators in a value list;

if any conjunctions exist, storing one or more identifiers of attribute evaluation value pairs corresponding to the first attribute value; and

if any payloads exist, storing one or more payloads corresponding to the first attribute value.

35.   (New) A computer-readable medium as recited in Claim 34 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for any conjunction listed in the first attribute conjunction list.

36.   (New) A computer-readable medium as recited in Claim 34 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for a second attribute in the evaluation tree.

37.   (New) A computer-readable medium as recited in Claim 34 further comprising repeating the steps of storing data in the attribute list, the evaluator list, the conjunction list, and the value list for attribute evaluator value pairs identified in the first attribute conjunction list, wherein the step of storing data in an attribute list is done on a separate catalog data structure.

38.   (New) A computer-readable medium as recited in Claim 34, wherein the attribute list is a master attribute list having a size less than all the possible attributes.

39.   (New) A computer-readable medium as recited in Claim 29, wherein the step traversing the catalog to determine one or more payloads corresponding to the subset of client attributes includes:

obtaining a first attribute from the subset of client attributes;

if the first attribute is found in the attribute list, obtaining an evaluator from the evaluator list and a value from the value list, wherein the evaluator and value form an evaluator/value set;

if the first attribute satisfies the evaluator/value set, determining whether a conjunction and a payload exist;

if a conjunction exists, repeating the steps with a corresponding attribute identified in the conjunction; and

if a payload exists, adding the payload to a master payload list.

40.   (New) A computer-readable medium as recited in Claim 39 further comprising repeating the steps until the last evaluator in the first attribute evaluation list is examined.

41.   (New) A computer-readable medium as recited in Claim 40, wherein the repeating step is done on a separate catalog data structure.

42.   (New) A computer-readable medium as recited in Claim 29, wherein the payload set is advertisement media and wherein the client attributes are client profile data attributes.

43.   (New) A communication medium having computer-executable modules for correlating payloads with a condition statement for delivering the payload, the modules comprising:

a master attribute module for storing a list of attributes;

an evaluator module, dynamically linked to the attribute module, and containing evaluators corresponding to each attribute in the attribute list;

a value module, dynamically linked to the evaluator module, and containing values corresponding to each evaluator in the evaluation module;

a payload module, dynamically linked to the value module, and containing payload sets corresponding to each value in the value module, wherein the payload module may be empty; and

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a conjunction module dynamically linked to the value module and containing conjunction sets corresponding to each value in the value module, wherein the conjunction list may be empty.

44. (New) The communication medium as recited in Claim 43 further comprising one or more attribute modules for storing additional attributes.

45. (New) The communication medium as recited in Claim 44, wherein the master attribute module list contains less than all the possible attributes.

46. (New) The communication medium as recited in Claim 45, wherein the payload set is advertisement content and when the attributes are client profile data attributes.

47. (New) A method in a computer system for correlating a payload with a subset of attributes for selecting a payload set, the method comprising:

generating an expression tree having multiple levels corresponding to the subset of attributes;

correlating the expression tree into the catalog; and

mapping the expression tree into an evaluation tree, wherein mapping the expression tree to an evaluation tree includes:

placing a lowest scoring leaf node as the topmost node of the evaluation tree;

placing conjunctive operations as right tree nodes;

placing disjunctive operations as left tree nodes; and

traversing the expression tree until all leaf nodes in the expression tree are represented in the evaluation tree.

48. (New) The method as recited in Claim 47, wherein the step of correlating the expression tree into the catalog includes:

storing a first attribute in the attribute list;

storing one or more evaluators corresponding to the first attribute in the evaluator list;

storing one or more values corresponding to each of the one or more first attribute evaluators in the value list;

if any conjunctions exist, storing one or more identifications of attributes corresponding to the first attribute; and

if any payloads exist, storing one or more payloads corresponding to the first attribute.